



SEQUENCE LISTING

<110> CELL SIGNALING TECHNOLOGY, INC.
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BROWN, Carrie A

<120> ANTIBODIES SPECIFIC FOR THE BCR-ABL FUSION PROTEIN AND USES
THEREOF

<130> 080095-0024

<140> us 10/807,799
<141> 2004-03-24

<160> 3

<170> PatentIn version 3.4

<210> 1
<211> 307
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (98)..(99)
<223> BCR-ABL fusion joint occurs a Lys-Glu, residues 98-99

<400> 1

Ala Asn Lys Gly Ser Lys Ala Thr Glu Arg Leu Lys Lys Lys Leu Ser
1 5 10 15

Glu Gln Glu Ser Leu Leu Leu Leu Met Ser Pro Ser Met Ala Phe Arg
20 25 30

Val His Ser Arg Asn Gly Lys Ser Tyr Thr Phe Leu Ile Ser Ser Asp
35 40 45

Tyr Glu Arg Ala Glu Trp Arg Glu Asn Ile Arg Glu Gln Gln Lys Lys
50 55 60

Cys Phe Arg Ser Phe Ser Leu Thr Ser Val Glu Leu Gln Met Leu Thr
65 70 75 80

Asn Ser Cys Val Lys Leu Gln Thr Val His Ser Ile Pro Leu Thr Ile
85 90 95

Asn Lys Glu Glu Ala Leu Gln Arg Pro Val Ala Ser Asp Phe Glu Pro
100 105 110

Gln Gly Leu Ser Glu Ala Ala Arg Trp Asn Ser Lys Glu Asn Leu Leu
115 120 125

Ala Gly Pro Ser Glu Asn Asp Pro Asn Leu Phe Val Ala Leu Tyr Asp
130 135 140

Phe Val Ala Ser Gly Asp Asn Thr Leu Ser Ile Thr Lys Gly Gln Lys
145 150 155 160

Leu Arg Val Leu Gly Tyr Asn His Asn Gly Gln Trp Cys Gln Ala Gln
165 170 175

Thr Lys Asn Gly Gln Gly Trp Val Pro Ser Asn Tyr Ile Thr Pro Val
180 185 190

Asn Ser Leu Glu Lys His Ser Trp Tyr His Gly Pro Val Ser Arg Asn
195 200 205

Ala Ala Gln Tyr Leu Leu Ser Ser Gly Ile Asn Gly Ser Phe Leu Val
210 215 220

Arg Glu Ser Glu Ser Ser Pro Gly Gln Arg Ser Ile Ser Leu Arg Tyr
225 230 235 240

Glu Gly Arg Val Tyr His Tyr Arg Ile Asn Thr Ala Ser Asp Gly Lys
245 250 255

Leu Tyr Val Ser Ser Glu Ser Arg Phe Asn Thr Leu Ala Glu Leu Val
260 265 270

His His His Ser Thr Val Ala Asp Gly Leu Ile Thr Thr Leu His Tyr
275 280 285

Pro Ala Pro Lys Arg Asn Lys Pro Thr Val Tyr Gly Val Ser Pro Asn
290 295 300

Tyr Asp Lys
305

<210> 2
<211> 1130
<212> PRT

<213> Homo sapiens

<400> 2

Met Leu Glu Ile Cys Leu Lys Leu Val Gly Cys Lys Ser Lys Lys Gly
1 5 10 15

Leu Ser Ser Ser Ser Ser Cys Tyr Leu Glu Glu Ala Leu Gln Arg Pro
20 25 30

Val Ala Ser Asp Phe Glu Pro Gln Gly Leu Ser Glu Ala Ala Arg Trp
35 40 45

Asn Ser Lys Glu Asn Leu Leu Ala Gly Pro Ser Glu Asn Asp Pro Asn
50 55 60

Leu Phe Val Ala Leu Tyr Asp Phe Val Ala Ser Gly Asp Asn Thr Leu
65 70 75 80

Ser Ile Thr Lys Gly Glu Lys Leu Arg Val Leu Gly Tyr Asn His Asn
85 90 95

Gly Glu Trp Cys Glu Ala Gln Thr Lys Asn Gly Gln Gly Trp Val Pro
100 105 110

Ser Asn Tyr Ile Thr Pro Val Asn Ser Leu Glu Lys His Ser Trp Tyr
115 120 125

His Gly Pro Val Ser Arg Asn Ala Ala Glu Tyr Leu Leu Ser Ser Gly
130 135 140

Ile Asn Gly Ser Phe Leu Val Arg Glu Ser Glu Ser Ser Pro Gly Gln
145 150 155 160

Arg Ser Ile Ser Leu Arg Tyr Glu Gly Arg Val Tyr His Tyr Arg Ile
165 170 175

Asn Thr Ala Ser Asp Gly Lys Leu Tyr Val Ser Ser Glu Ser Arg Phe
180 185 190

Asn Thr Leu Ala Glu Leu Val His His His Ser Thr Val Ala Asp Gly
195 200 205

Leu Ile Thr Thr Leu His Tyr Pro Ala Pro Lys Arg Asn Lys Pro Thr

210

215

220

Val Tyr Gly Val Ser Pro Asn Tyr Asp Lys Trp Glu Met Glu Arg Thr
 225 230 235 240

Asp Ile Thr Met Lys His Lys Leu Gly Gly Gly Gln Tyr Gly Glu Val
 245 250 255

Tyr Glu Gly Val Trp Lys Lys Tyr Ser Leu Thr Val Ala Val Lys Thr
 260 265 270

Leu Lys Glu Asp Thr Met Glu Val Glu Glu Phe Leu Lys Glu Ala Ala
 275 280 285

Val Met Lys Glu Ile Lys His Pro Asn Leu Val Gln Leu Leu Gly Val
 290 295 300

Cys Thr Arg Glu Pro Pro Phe Tyr Ile Ile Thr Glu Phe Met Thr Tyr
 305 310 315 320

Gly Asn Leu Leu Asp Tyr Leu Arg Glu Cys Asn Arg Gln Glu Val Asn
 325 330 335

Ala Val Val Leu Leu Tyr Met Ala Thr Gln Ile Ser Ser Ala Met Glu
 340 345 350

Tyr Leu Glu Lys Lys Asn Phe Ile His Arg Asp Leu Ala Ala Arg Asn
 355 360 365

Cys Leu Val Gly Glu Asn His Leu Val Lys Val Ala Asp Phe Gly Leu
 370 375 380

Ser Arg Leu Met Thr Gly Asp Thr Tyr Thr Ala His Ala Gly Ala Lys
 385 390 395 400

Phe Pro Ile Lys Trp Thr Ala Pro Glu Ser Leu Ala Tyr Asn Lys Phe
 405 410 415

Ser Ile Lys Ser Asp Val Trp Ala Phe Gly Val Leu Leu Trp Glu Ile
 420 425 430

Ala Thr Tyr Gly Met Ser Pro Tyr Pro Gly Ile Asp Leu Ser Gln Val
 435 440 445

Tyr Glu Leu Leu Glu Lys Asp Tyr Arg Met Glu Arg Pro Glu Gly Cys
450 455 460

Pro Glu Lys Val Tyr Glu Leu Met Arg Ala Cys Trp Gln Trp Asn Pro
465 470 475 480

Ser Asp Arg Pro Ser Phe Ala Glu Ile His Gln Ala Phe Glu Thr Met
485 490 495

Phe Gln Glu Ser Ser Ile Ser Asp Glu Val Glu Lys Glu Leu Gly Lys
500 505 510

Gln Gly Val Arg Gly Ala Val Ser Thr Leu Leu Gln Ala Pro Glu Leu
515 520 525

Pro Thr Lys Thr Arg Thr Ser Arg Arg Ala Ala Glu His Arg Asp Thr
530 535 540

Thr Asp Val Pro Glu Met Pro His Ser Lys Gly Gln Gly Glu Ser Asp
545 550 555 560

Pro Leu Asp His Glu Pro Ala Val Ser Pro Leu Leu Pro Arg Lys Glu
565 570 575

Arg Gly Pro Pro Glu Gly Gly Leu Asn Glu Asp Glu Arg Leu Leu Pro
580 585 590

Lys Asp Lys Lys Thr Asn Leu Phe Ser Ala Leu Ile Lys Lys Lys Lys
595 600 605

Lys Thr Ala Pro Thr Pro Pro Lys Arg Ser Ser Ser Phe Arg Glu Met
610 615 620

Asp Gly Gln Pro Glu Arg Arg Gly Ala Gly Glu Glu Glu Gly Arg Asp
625 630 635 640

Ile Ser Asn Gly Ala Leu Ala Phe Thr Pro Leu Asp Thr Ala Asp Pro
645 650 655

Ala Lys Ser Pro Lys Pro Ser Asn Gly Ala Gly Val Pro Asn Gly Ala
660 665 670

Leu Arg Glu Ser Gly Gly Ser Gly Phe Arg Ser Pro His Leu Trp Lys
675 680 685

Lys Ser Ser Thr Leu Thr Ser Ser Arg Leu Ala Thr Gly Glu Glu Glu
690 695 700

Gly Gly Gly Ser Ser Ser Lys Arg Phe Leu Arg Ser Cys Ser Ala Ser
705 710 715 720

Cys Val Pro His Gly Ala Lys Asp Thr Glu Trp Arg Ser Val Thr Leu
725 730 735

Pro Arg Asp Leu Gln Ser Thr Gly Arg Gln Phe Asp Ser Ser Thr Phe
740 745 750

Gly Gly His Lys Ser Glu Lys Pro Ala Leu Pro Arg Lys Arg Ala Gly
755 760 765

Glu Asn Arg Ser Asp Gln Val Thr Arg Gly Thr Val Thr Pro Pro Pro
770 775 780

Arg Leu Val Lys Lys Asn Glu Glu Ala Ala Asp Glu Val Phe Lys Asp
785 790 795 800

Ile Met Glu Ser Ser Pro Gly Ser Ser Pro Pro Asn Leu Thr Pro Lys
805 810 815

Pro Leu Arg Arg Gln Val Thr Val Ala Pro Ala Ser Gly Leu Pro His
820 825 830

Lys Glu Glu Ala Gly Lys Gly Ser Ala Leu Gly Thr Pro Ala Ala Ala
835 840 845

Glu Pro Val Thr Pro Thr Ser Lys Ala Gly Ser Gly Ala Pro Gly Gly
850 855 860

Thr Ser Lys Gly Pro Ala Glu Glu Ser Arg Val Arg Arg His Lys His
865 870 875 880

Ser Ser Glu Ser Pro Gly Arg Asp Lys Gly Lys Leu Ser Arg Leu Lys
885 890 895

Pro Ala Pro Pro Pro Pro Pro Ala Ala Ser Ala Gly Lys Ala Gly Gly
900 905 910

Lys Pro Ser Gln Ser Pro Ser Gln Glu Ala Ala Gly Glu Ala Val Leu
915 920 925

Gly Ala Lys Thr Lys Ala Thr Ser Leu Val Asp Ala Val Asn Ser Asp
930 935 940

Ala Ala Lys Pro Ser Gln Pro Gly Glu Gly Leu Lys Lys Pro Val Leu
945 950 955 960

Pro Ala Thr Pro Lys Pro Gln Ser Ala Lys Pro Ser Gly Thr Pro Ile
965 970 975

Ser Pro Ala Pro Val Pro Ser Thr Leu Pro Ser Ala Ser Ser Ala Leu
980 985 990

Ala Gly Asp Gln Pro Ser Ser Thr Ala Phe Ile Pro Leu Ile Ser Thr
995 1000 1005

Arg Val Ser Leu Arg Lys Thr Arg Gln Pro Pro Glu Arg Ile Ala
1010 1015 1020

Ser Gly Ala Ile Thr Lys Gly Val Val Leu Asp Ser Thr Glu Ala
1025 1030 1035

Leu Cys Leu Ala Ile Ser Arg Asn Ser Glu Gln Met Ala Ser His
1040 1045 1050

Ser Ala Val Leu Glu Ala Gly Lys Asn Leu Tyr Thr Phe Cys Val
1055 1060 1065

Ser Tyr Val Asp Ser Ile Gln Gln Met Arg Asn Lys Phe Ala Phe
1070 1075 1080

Arg Glu Ala Ile Asn Lys Leu Glu Asn Asn Leu Arg Glu Leu Gln
1085 1090 1095

Ile Cys Pro Ala Thr Ala Gly Ser Gly Pro Ala Ala Thr Gln Asp
1100 1105 1110

Phe Ser Lys Leu Leu Ser Ser Val Lys Glu Ile Ser Asp Ile Val

1115

1120

1125

Gln Arg
1130

<210> 3
<211> 1271
<212> PRT
<213> Homo sapiens

<400> 3

Met Val Asp Pro Val Gly Phe Ala Glu Ala Trp Lys Ala Gln Phe Pro
1 5 10 15

Asp Ser Glu Pro Pro Arg Met Glu Leu Arg Ser Val Gly Asp Ile Glu
20 25 30

Gln Glu Leu Glu Arg Cys Lys Ala Ser Ile Arg Arg Leu Glu Gln Glu
35 40 45

Val Asn Gln Glu Arg Phe Arg Met Ile Tyr Leu Gln Thr Leu Leu Ala
50 55 60

Lys Glu Lys Lys Ser Tyr Asp Arg Gln Arg Trp Gly Phe Arg Arg Ala
65 70 75 80

Ala Gln Ala Pro Asp Gly Ala Ser Glu Pro Arg Ala Ser Ala Ser Arg
85 90 95

Pro Gln Pro Ala Pro Ala Asp Gly Ala Asp Pro Pro Pro Ala Glu Glu
100 105 110

Pro Glu Ala Arg Pro Asp Gly Glu Gly Ser Pro Gly Lys Ala Arg Pro
115 120 125

Gly Thr Ala Arg Arg Pro Gly Ala Ala Ala Ser Gly Glu Arg Asp Asp
130 135 140

Arg Gly Pro Pro Ala Ser Val Ala Ala Leu Arg Ser Asn Phe Glu Arg
145 150 155 160

Ile Arg Lys Gly His Gly Gln Pro Gly Ala Asp Ala Glu Lys Pro Phe
165 170 175

Tyr Val Asn Val Glu Phe His His Glu Arg Gly Leu Val Lys Val Asn
180 185 190

Asp Lys Glu Val Ser Asp Arg Ile Ser Ser Leu Gly Ser Gln Ala Met
195 200 205

Gln Met Glu Arg Lys Lys Ser Gln His Gly Ala Gly Ser Ser Val Gly
210 215 220

Asp Ala Ser Arg Pro Pro Tyr Arg Gly Arg Ser Ser Glu Ser Ser Cys
225 230 235 240

Gly Val Asp Gly Asp Tyr Glu Asp Ala Glu Leu Asn Pro Arg Phe Leu
245 250 255

Lys Asp Asn Leu Ile Asp Ala Asn Gly Gly Ser Arg Pro Pro Trp Pro
260 265 270

Pro Leu Glu Tyr Gln Pro Tyr Gln Ser Ile Tyr Val Gly Gly Met Met
275 280 285

Glu Gly Glu Gly Lys Gly Pro Leu Leu Arg Ser Gln Ser Thr Ser Glu
290 295 300

Gln Glu Lys Arg Leu Thr Trp Pro Arg Arg Ser Tyr Ser Pro Arg Ser
305 310 315 320

Phe Glu Asp Cys Gly Gly Gly Tyr Thr Pro Asp Cys Ser Ser Asn Glu
325 330 335

Asn Leu Thr Ser Ser Glu Glu Asp Phe Ser Ser Gly Gln Ser Ser Arg
340 345 350

Val Ser Pro Ser Pro Thr Thr Tyr Arg Met Phe Arg Asp Lys Ser Arg
355 360 365

Ser Pro Ser Gln Asn Ser Gln Gln Ser Phe Asp Ser Ser Ser Pro Pro
370 375 380

Thr Pro Gln Cys His Lys Arg His Arg His Cys Pro Val Val Val Ser
385 390 395 400

Glu Ala Thr Ile Val Gly Val Arg Lys Thr Gly Gln Ile Trp Pro Asn
405 410 415

Asp Gly Glu Gly Ala Phe His Gly Asp Ala Asp Gly Ser Phe Gly Thr
420 425 430

Pro Pro Gly Tyr Gly Cys Ala Ala Asp Arg Ala Glu Glu Gln Arg Arg
435 440 445

His Gln Asp Gly Leu Pro Tyr Ile Asp Asp Ser Pro Ser Ser Ser Pro
450 455 460

His Leu Ser Ser Lys Gly Arg Gly Ser Arg Asp Ala Leu Val Ser Gly
465 470 475 480

Ala Leu Glu Ser Thr Lys Ala Ser Glu Leu Asp Leu Glu Lys Gly Leu
485 490 495

Glu Met Arg Lys Trp Val Leu Ser Gly Ile Leu Ala Ser Glu Glu Thr
500 505 510

Tyr Leu Ser His Leu Glu Ala Leu Leu Leu Pro Met Lys Pro Leu Lys
515 520 525

Ala Ala Ala Thr Thr Ser Gln Pro Val Leu Thr Ser Gln Gln Ile Glu
530 535 540

Thr Ile Phe Phe Lys Val Pro Glu Leu Tyr Glu Ile His Lys Glu Phe
545 550 555 560

Tyr Asp Gly Leu Phe Pro Arg Val Gln Gln Trp Ser His Gln Gln Arg
565 570 575

Val Gly Asp Leu Phe Gln Lys Leu Ala Ser Gln Leu Gly Val Tyr Arg
580 585 590

Ala Phe Val Asp Asn Tyr Gly Val Ala Met Glu Met Ala Glu Lys Cys
595 600 605

Cys Gln Ala Asn Ala Gln Phe Ala Glu Ile Ser Glu Asn Leu Arg Ala
610 615 620

Arg Ser Asn Lys Asp Ala Lys Asp Pro Thr Thr Lys Asn Ser Leu Glu

625		630		635		640									
Thr	Leu	Leu	Tyr	Lys	Pro	Val	Asp	Arg	Val	Thr	Arg	Ser	Thr	Leu	Val
				645					650					655	
Leu	His	Asp	Leu	Leu	Lys	His	Thr	Pro	Ala	Ser	His	Pro	Asp	His	Pro
			660					665					670		
Leu	Leu	Gln	Asp	Ala	Leu	Arg	Ile	Ser	Gln	Asn	Phe	Leu	Ser	Ser	Ile
		675					680					685			
Asn	Glu	Glu	Ile	Thr	Pro	Arg	Arg	Gln	Ser	Met	Thr	Val	Lys	Lys	Gly
	690					695					700				
Glu	His	Arg	Gln	Leu	Leu	Lys	Asp	Ser	Phe	Met	Val	Glu	Leu	Val	Glu
705					710					715					720
Gly	Ala	Arg	Lys	Leu	Arg	His	Val	Phe	Leu	Phe	Thr	Asp	Leu	Leu	Leu
			725						730					735	
Cys	Thr	Lys	Leu	Lys	Lys	Gln	Ser	Gly	Gly	Lys	Thr	Gln	Gln	Tyr	Asp
			740					745					750		
Cys	Lys	Trp	Tyr	Ile	Pro	Leu	Thr	Asp	Leu	Ser	Phe	Gln	Met	Val	Asp
		755					760					765			
Glu	Leu	Glu	Ala	Val	Pro	Asn	Ile	Pro	Leu	Val	Pro	Asp	Glu	Glu	Leu
	770					775					780				
Asp	Ala	Leu	Lys	Ile	Lys	Ile	Ser	Gln	Ile	Lys	Asn	Asp	Ile	Gln	Arg
785					790					795					800
Glu	Lys	Arg	Ala	Asn	Lys	Gly	Ser	Lys	Ala	Thr	Glu	Arg	Leu	Lys	Lys
				805					810					815	
Lys	Leu	Ser	Glu	Gln	Glu	Ser	Leu	Leu	Leu	Leu	Met	Ser	Pro	Ser	Met
			820					825					830		
Ala	Phe	Arg	Val	His	Ser	Arg	Asn	Gly	Lys	Ser	Tyr	Thr	Phe	Leu	Ile
		835					840					845			
Ser	Ser	Asp	Tyr	Glu	Arg	Ala	Glu	Trp	Arg	Glu	Asn	Ile	Arg	Glu	Gln
	850					855					860				

Gln Lys Lys Cys Phe Arg Ser Phe Ser Leu Thr Ser Val Glu Leu Gln
865 870 875 880

Met Leu Thr Asn Ser Cys Val Lys Leu Gln Thr Val His Ser Ile Pro
885 890 895

Leu Thr Ile Asn Lys Glu Asp Asp Glu Ser Pro Gly Leu Tyr Gly Phe
900 905 910

Leu Asn Val Ile Val His Ser Ala Thr Gly Phe Lys Gln Ser Ser Asn
915 920 925

Leu Tyr Cys Thr Leu Glu Val Asp Ser Phe Gly Tyr Phe Val Asn Lys
930 935 940

Ala Lys Thr Arg Val Tyr Arg Asp Thr Ala Glu Pro Asn Trp Asn Glu
945 950 955 960

Glu Phe Glu Ile Glu Leu Glu Gly Ser Gln Thr Leu Arg Ile Leu Cys
965 970 975

Tyr Glu Lys Cys Tyr Asn Lys Thr Lys Ile Pro Lys Glu Asp Gly Glu
980 985 990

Ser Thr Asp Arg Leu Met Gly Lys Gly Gln Val Gln Leu Asp Pro Gln
995 1000 1005

Ala Leu Gln Asp Arg Asp Trp Gln Arg Thr Val Ile Ala Met Asn
1010 1015 1020

Gly Ile Glu Val Lys Leu Ser Val Lys Phe Asn Ser Arg Glu Phe
1025 1030 1035

Ser Leu Lys Arg Met Pro Ser Arg Lys Gln Thr Gly Val Phe Gly
1040 1045 1050

Val Lys Ile Ala Val Val Thr Lys Arg Glu Arg Ser Lys Val Pro
1055 1060 1065

Tyr Ile Val Arg Gln Cys Val Glu Glu Ile Glu Arg Arg Gly Met
1070 1075 1080

Glu Glu Val Gly Ile Tyr Arg Val Ser Gly Val Ala Thr Asp Ile
1085 1090 1095

Gln Ala Leu Lys Ala Ala Phe Asp Val Asn Asn Lys Asp Val Ser
1100 1105 1110

Val Met Met Ser Glu Met Asp Val Asn Ala Ile Ala Gly Thr Leu
1115 1120 1125

Lys Leu Tyr Phe Arg Glu Leu Pro Glu Pro Leu Phe Thr Asp Glu
1130 1135 1140

Phe Tyr Pro Asn Phe Ala Glu Gly Ile Ala Leu Ser Asp Pro Val
1145 1150 1155

Ala Lys Glu Ser Cys Met Leu Asn Leu Leu Leu Ser Leu Pro Glu
1160 1165 1170

Ala Asn Leu Leu Thr Phe Leu Phe Leu Leu Asp His Leu Lys Arg
1175 1180 1185

Val Ala Glu Lys Glu Ala Val Asn Lys Met Ser Leu His Asn Leu
1190 1195 1200

Ala Thr Val Phe Gly Pro Thr Leu Leu Arg Pro Ser Glu Lys Glu
1205 1210 1215

Ser Lys Leu Pro Ala Asn Pro Ser Gln Pro Ile Thr Met Thr Asp
1220 1225 1230

Ser Trp Ser Leu Glu Val Met Ser Gln Val Gln Val Leu Leu Tyr
1235 1240 1245

Phe Leu Gln Leu Glu Ala Ile Pro Ala Pro Asp Ser Lys Arg Gln
1250 1255 1260

Ser Ile Leu Phe Ser Thr Glu Val
1265 1270